

NOTES ON THE ETHIOPIAN FRUIT-FLIES OF THE FAMILY
TRYPANEIDAE, OTHER THAN DACUS (S.L.) (DIPT.).—II.*

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(PLATE I.)

XVII. OCNERIOXA, Speiser, 1915.

This genus was recently described by Dr. Speiser and is a very characteristic one, on account of its elongate and slender body and bare 3rd longitudinal vein. The species belonging here, as long ago pointed out by Loew, have a great resemblance to those of the genus *Elaphromyia*, but they are at once distinguished by the thin and black occipital row, by the pointed lower angle of the anal cell and by the non-reticulate wing pattern. The genus is evidently allied to *Ocneros*, but has nothing to do with *Rioxa*. I will give here some additional details to the short description of Dr. Speiser.

Head a little broader than high, occiput flat, hollowed above, with less developed lateral swellings; frons as broad as one eye, a little prominent above the base of antennae; face concave, with no distinct middle keel, and with rather prominent mouth border; cheeks linear; jowls narrow. Eyes of greater size, rounded, nearly as broad as high. Antennae inserted a little below the middle line of eyes, about as long as the face; third joint 3-4 times as long as the two basal joints together, rounded at tip; arista bare. Proboscis short; palpi broadened at end and bristly. Thoracic chaetotaxy complete; Dr. Speiser has overlooked the very thin and short *sep.*, and the *dc.*, which are placed much behind, only a little before the line of the *prsc.* Scutellum flat, bare on disc, with distinct lateral keels. Abdomen elongate, not bristly at end; male genitalia small; ovipositor swollen, conical, broad, as long as the last three abdominal segments together. Legs rather stout; front femora with 2-3 bristles; middle tibiae with one spur; hind tibiae with an undeveloped row of bristles. Wings very long and narrow with parallel borders; no distinct costal bristle, or a very thin one; stigma very long; 2nd, 3rd and 4th longitudinal veins perfectly straight and gradually diverging outwardly; small cross-vein placed on the last fifth of the discoidal cell, hind cross-vein straight, perpendicular or oblique outwardly at its upper end, as long as its distance from the small cross-vein; point of the anal cell longer than the second basal cell; discoidal cell long, much narrower at base than at end.

The species are as follows:—

- 1(4). Macrochaetae of head and body yellow; 2 lower *or.*; antennae as long as the face, with the third joint 2-3 times as long as the two basal joints together; legs rather stout, the front femora with scattered bristles below; wings very narrow and longer than the body, with no distinct costal bristle, very long stigma and long point of the anal cell.

*For Part I see Bull. Ent. Res. viii, pp. 215-251.

- 2(3). Mouth-border yellow like the face; mesophragma yellow, with a black stripe; wings with only two hyaline spots at fore border and with the lower apical angle of the discoidal cell hyaline. . . . *pennata*, Speis.
- 3(2). Mouth-border with a black stripe; mesophragma shining black; wings with 4-5 hyaline costal spots and with the discoidal cell wholly infuscated. *woodi*, sp. n.
- 4(1). Macrochaetae quite black; antennae only half as long as the face; legs more slender, with the front femora not bristly beneath; wings broader and shorter than the body, with a rather distinct costal bristle, a short stigma and the point of the anal cell not long. . . . *gracilis*, Loew.

1. **Ocnerioxa pennata**, Speiser, Deut. Ent. Zeits., 1915, p. 103.

This species is very like the following one, but may be distinguished by the entirely yellow frons and face, and by the somewhat different wing pattern

Originally described from N. Kamerun, Mubi, near Jarua. I have before me a cotypical male specimen received from the author.

2. **Ocnerioxa woodi**, sp. nov. (Pl. i, fig. 1).

A beautiful fly of strange coloration.

♂♀. Length of body, 4.5-5 mm.; of the ovipositor, 1.2 mm.; of the wing, 5-6 mm.

Head of a pale yellowish colour; occiput shining, with 4 black stripes radiating from the neck to the vertical bristles and to below the middle of eyes; ocellar dot black; frons opaque, shining at vertex and on the basal stripes, and above the lunula with a more or less broad, black, transverse band; along the upper mouth-border there is a very striking, black stripe; jowls with fuscous subocular patch. Antennae entirely of a pale yellowish colour, like the palpi and the proboscis, but the third joint is a little infuscated. The occipital swellings are paler, almost whitish, clothed with pale yellowish hairs. All the bristles are yellow, only the outer *vt.* and those of the rather strong occipital row being black. Thorax on the back of a light whitish-yellow colour, less shining and with pale pubescence; on the sides it is adorned with 4 parallel, black stripes, 2 on each side, the interior going from above the humeri to the lateral angles of the scutellum, the outer along the notopleural line to the root of the wings; the former of these stripes is in continuation with the horizontal streak of the occiput. Pleurae of a much paler, yellowish-green colour, not spotted, with a whitish pubescence beneath; mesophragma quite shining black. All the bristles are yellow, sometimes infuscated at end; the *st.* is quite white. Scutellum of a lighter colour than the back of thorax, and with yellow bristles. Halteres pale yellow. Abdomen of oval shape, more shining than the thorax, with yellowish pubescence and black bristles; it is of a yellowish-green colour, in the male the elongate 4th segment being entirely black and shining, in the female the segments 3-5 having a black spot on each side and the second having a narrow black hind border. Venter greenish yellow; ovipositor entirely reddish. Legs entirely pale yellow, with pale pubescence and yellowish bristles, even the terminal spur of the middle tibiae being yellowish; claws black. Wings wholly infuscated; along the fore border there are 3 small elongate hyaline spots in the

very long stigma (while in *pennata* they are wanting), and 2 rather larger ones in the marginal cell; at the hind border there is a broad hyaline indentation in the second posterior cell; the greater part of the 3rd posterior cell and the whole of the axillary cell are likewise hyaline, while the discoidal and the anal cells are entirely infuscated. The dark teeth or projections are situated at the end of the 5th longitudinal vein and a little after the middle of the discoidal cell. The stigma is darker than the surrounding parts. The small cross-vein is narrowly yellowish; the veins are dark yellowish, but the costa is lighter.

Type ♂ and type ♀ with some additional specimens from Nyalasand, Limbe, Chiromo, Ruo River, 22.ix.1916, collected by Mr. R. C. Wood, in whose honour this strange insect is named.

3. **Ocnerioxa gracilis**, Loew, Berl. Ent. Zeits., v. 1861, p. 270, pl. ii, fig. 8.

Originally described from Caffraria and not recorded subsequently. Its position in the present genus is very doubtful, as can be seen from the very different characters above recorded. I have provisionally placed it here only on account of its bare third longitudinal vein, and of its resemblance to *Elaphromyia* recorded by the author.

XVIII. TEPHRITIS, Latreille (*Urophora*, R.D.).

Prof. Hendel has used the present name for the species placed by Loew and other authors in *Urophora*, on account of the fact that the type species of the genus is *solstitialis*, L., the same thing was already pointed out by Coquillett in 1910; but Latreille in 1810 had established that the type of his own genus was *cardui*, a species which is at any rate congeneric with the former.

The present genus seems to be represented in the Ethiopian fauna by gall-making species, which have the wings not or very little patterned; they may be distinguished as follows* :—

- 1(2). Scutellum black; wings quite immaculate at end *indecora*, Loew.
 2(1). Scutellum yellow; apex of the wings at end of the first posterior cell with a faint greyish shade *vernoniicola*, sp. n.

1. **Tephritis indecora**, Loew, Berl. Ent. Zeits., v, 1861, p. 282, pl. ii, fig. 16.

Described from Caffraria, and never recorded subsequently.

2. **Tephritis vernoniicola**, sp. nov.

♂. Length of the body 4·4–5 mm.; of the wing 3·5–4 mm. Head of a reddish colour, but with the occiput broadly black on the middle and above; frons shining, with a black ocellar spot and with distinct but small longitudinal furrows; face pale yellowish, proportionally narrow, with a small middle keel and not at all prominent at the mouth-border; the rather broad cheeks and the jowls in continuation with them are shining reddish, unspotted. Antennae wanting in case of the type; there are only the basal joints, which are pale yellowish. Proboscis short, with short terminal flaps, and pale yellow in colour, like the small palpi.

* *Urophora basilaris*, Macquart (1835) seems to be an Ortalid.

The cephalic bristles are broken off in the type, only the inner *vt.* being present, which are black like those of the occipital row. Thorax entirely black, even on the pleurae, and rather shining; the humeri and a narrow notopleural line are reddish; on the back it seems to be a little grey dusted; the bristles are black, but they are mostly broken off. Scutellum yellowish red, with black sides at base. Mesophragma shining black. Halteres yellow. Abdomen entirely black, rather shining, with black bristles at end. Legs and coxae entirely yellow. Wings hyaline, with yellow veins, but with the costa darkened on its apical half. No



Fig. 1. *Tephritis vernoniicola*, Bezzi, sp. n.

costal bristle; stigma short, honey yellow; the extreme tip of the wings, between the ends of the 3rd and 4th longitudinal veins, has a faint greyish shading; in the rest there is no trace of bands, but the wing is rather broadly yellowish at base. The last portion of the 4th vein is straight, but slightly converging with the 3rd, the 1st posterior cell being smaller at the end than in *indecora*; small cross-vein placed about in the middle of the discoidal cell.

Type ♂ and an additional specimen, both in poor condition, in the writer's collection from Erythraea, Adi Ugri, bred from fusiform galls on twigs of *Vernonia abyssinica* (Dr. J. Baldrati).

XIX. STAURELLA, Bezzi (1913).

I have to record here this Oriental genus only because it is recorded as Ethiopian by Prof. Hendel; but at present I do not know any Ethiopian species belonging to it.

The genus is closely allied to *Rhacochlaena*, of which it has the reduced chaetotaxy and a similar wing pattern; but it is at once distinguished by the quite bare 3rd longitudinal vein. Owing to this fact I now think that the Indian species, *S. nigripeda*, Bezzi (1913), which has a bristly 3rd vein, is better placed in *Rhacochlaena*, inasmuch as its wing pattern is very like that of *R. toxoneura*.

XX. CARPOMYIA, A. Costa.

Of this genus the following species of very wide geographical distribution is represented in the collection before me:—

1. ***Carpomyia incompleta***, Becker (1903); Bezzi (1911, 1913); Silvestri, Boll. Labor. Zool. Portici, 1916, xi, p. 176, fig. 8.

A characteristic little fly, which is at once distinguished by its entirely pale yellowish body with only two black spots on the mesophragma, and by the incompletely banded wings.

Prof. Silvestri has recorded this species from the Sudan, Khartoum, and from Erythraea, Keren. In the collection before me there are two specimens from the Sudan, Zeidali, 10.iii.1910, "Nalebak fruit-fly" (H. H. King).

XXI. CRASPEDOXANTHA, Bezzi (1913).

The present genus is closely allied to the following one, *Terellia*, some species of which show a black-spotted body and a similar course of the 3rd longitudinal vein, as *falcata*, which has also a *caput buccatum* (gen. *Orellia*, R. D.) and a very long point of the anal cell; but it is distinguished by the different form of the head and of the eyes, and by the peculiar wing pattern. In the present genus the *prsc.* are placed about in the same position as the *dc.*, thus resembling a first *dc.* pair. It is not a Trypaneine, and seems to be well represented in the Oriental and Ethiopian regions. The Ethiopian species are as follows:—

- 1(2). Scutellum with two black spots at end; pleurae with a black spot before the root of the wings *marginalis*, Wied.
 2(1). Scutellum and pleurae quite devoid of black spots *manengubae*, Speis.

1. *Craspedoxantha marginalis*, Wiedemann (1830).

Originally described in the female sex from the Cape, and never seen subsequently.

2. *Craspedoxantha manengubae*, Speiser, Deut. Ent. Zeits., 1915, p. 104.

Originally described in the male sex from Kamerun, Dschung, October 1912; there are in the collection some specimens of both sexes from Nyasaland, Mt. Mlanje, 6-17.vi.1912 (*S. A. Neave*) and Chiromo, Ruo R., 22.ix.1916 (*R. C. Wood*).

To the description of Dr. Speiser may be added:—All the bristles of head and body are of a yellowish colour. *Oc.* rather strong; bristles of the occipital row short, thin, acute; *sep.* indistinct; *dc.* placed at level of the posterior *npl.* and thus much before the *a. sa.*; one *npl.*; *pt.* strong, but always weaker than the *st.* The ovipositor is reddish, with the end narrowly black, and sometimes with a small black spot on each side at base; it is elongate conical (in dried specimens apparently flat), 2.5 mm. long, but when completely exerted 4 mm. long. Front femora with 4-5 strong bristles beneath; hind tibiae with a complete row of long and rather stout bristles. Wings (Pl. i, fig. 2) without costal bristle, and of a rather narrow and long shape; stigma elongate, but always shorter than the second costal cell; first posterior cell at the middle about 3 times as broad as the submarginal cell; discoidal cell only a little shorter than the second posterior cell, with the small cross-vein placed beyond its middle; point of the anal cell longer than the second basal cell.

TERELLIA, Robineau-Desvoidy (1830).

Incidentally recorded here because Prof. Hendel on p. 92 of his work on the Trypaneid genera of the world records it as an Ethiopian one. It is taken in the sense of *Trypeta* of Loew and other authors, with the addition of the species with banded wings, which in Robineau-Desvoidy are placed in a separate genus under the name of *Sitarea*.

I have not seen Ethiopian species of the present genus, but probably *hynia*, Walker (1849), from Sierra Leone, may belong here.

XXII. ACIURA, Robineau-Desvoidy (1830).

The condition of this and the two following genera is at present quite unsatisfactory, as they include evidently different elements. Even the two typical European species of *Aciura* are hardly to be considered as congeneric; *rotundiventris* has black *vt.* bristles, occiput swollen above, eyes narrow in profile, yellow pubescence on thorax, short and broad ovipositor and no, or ill-developed, costal bristle on the wings; while *coryli* has yellowish *vt.* bristles, occiput hollowed above, eyes more rounded, black thoracic pubescence, long and narrow ovipositor and a well developed costal bristle, which is often double.

I have now distinguished the genera only on account of the dusted or not dusted back of mesothorax, without considering the colour of the bristles of the occipital row or the number of the scutellar bristles. Thus I have included in *Aciura* species with all these characters; in *Platensina* the bristles of the occipital row are usually of the stout and obtuse type, but as they are sometimes thin, I have in the table of the genera repeated the genus.

The Ethiopian species provisionally placed in *Aciura* can be distinguished as follows:—

- 1(14). All the bristles of the occipital border are whitish, only the longer inner *vt.* being black; wings black at hind border, with 3 or 4 hyaline indentations; body elongate.
- 2(3). Wings quite cuneiform, with a very narrow base and with rudimentary axillary cell; only 2 scutellar bristles; thorax on the back with black pubescence *angusta*, Loew.
- 3(2). Wings not cuneiform, with normally developed axillary cell; scutellum usually with 4 bristles
- 4(13). No hyaline spots on the middle of the wings, or only a single dot or streak in the black apical patch; the hyaline indentations of the hind border are long and narrow, not paired.
- 5(12). Wings with only 3 hyaline indentations at the hind border, the apical one in the first posterior cell being wanting.
- 6(7). There is a hyaline spot in the middle of the apical black patch
oborinia, Walk.
- 7(6). No hyaline spot in the apical black patch.
- 8(9). Only 2 scutellar bristles; axillary cell rather narrow; the 2 hyaline indentations of the 3rd posterior cell extend with their tips into the discoidal cell; thorax with yellow pubescence; halteres pale yellowish
semiangusta, sp. n.
- 9(8). Scutellum with 4 bristles; axillary cell rather broad; the first two indentations of the hind border stop at the 5th longitudinal vein, the discoidal cell being entirely black; thorax with black pubescence; halteres black.
- 10(11). In the hyaline base of the wings there is only a short black border in the first costal cell *caeca*, Bezzi.
- 11(10). There is a broad black marginal stripe in the two costal cells extending from the base to the stigma *tetrachaeta*, sp. n.

- 12(5). Wings with 4 hyaline indentations at the hind border, the 4th being extended across the last portion of the 3rd longitudinal vein into the submarginal cell *capensis*, Roud.
- 13(4). There are 3 hyaline rounded spots, 2 being in the discoidal cell; the 4 hyaline indentations at the hind border are short and broad, and disposed in 2 pairs *ternaria*, Loew.
- 14(1). All the occipital bristles are black; only 2 scutellar bristles; wings broadly hyaline at the hind border, with a single middle fuscous stripe reaching the hind border *binaria*, Loew.

1. ***Aciura angusta***, Loew, Berl. Ent. Zeits., v, 1861, p. 271, pl. ii, fig. 9.

A narrow elongate species, very distinct from any other on account of its rudimentary axillary cell, the wings being therefore almost pedunculate at base.

All the bristles around the occipital border are whitish, only the longer *vt.* being black; the *prt.* are rather thick and rather obtuse, while those of the occipital row are thin and acute. These characters are also present in the following 4 species: *oborinia*, *semiangusta*, *caeca* and *tetrachaeta*, and in the Indian *xanthothrica*, which thus form a natural group, having a very constant wing pattern, like that of the two European species (*coryli* and *rotundiventris*), and a narrow elongate body, with the ovipositor narrow and about as long as the abdomen. The peculiar shape of the hind cross-vein is also characteristic for the group.

To Loew's description may be added:—One *mpl.*; thoracic bristles sometimes in part of a dark yellowish colour; *st.* stouter than the short and weak *pt.*

Originally described from Caffraria, and recorded by Becker from Sokotra, there are in the collection some specimens of both sexes from Umbilo, Durban, 3.v.—1.vi. 1914 (*L. Bevis*).

2. ***Aciura oborinia***, Walker (1849).

Distinct from the other species on account of the hyaline dot in the centre of the broad apical black patch of the wings, recalling that to be observed in *A. coryli*.

Originally described from the Congo, but never found subsequently.

3. ***Aciura semiangusta***, sp. nov. (Pl. i, fig. 3).

Very like the two following species, from which it is distinguished by the hyaline streaks of the discoidal cell.

♀. Length of the body, 4 mm.; of the ovipositor, 1.5 mm.; of the wing 4.5 mm. Occiput hollowed above, entirely black, with dark grey dust; all the bristles at its border are whitish, the upper ones rather thick but acute at end, the other rather thin; inner *vt.* black, like the frontal bristles. Frons flat, not prominent in profile, dark reddish brown, with the sides white-dusted in front; it is distinctly longer than broad, and bears 3 pairs of strong lower *or.*; there is a triangular, black, rather shining ocellar plate, with very short *oc.*; lunula normal. Eyes higher than broad, but not much narrowed; cheeks linear; jowls very narrow; genal bristle strong, black. Antennae inserted at middle of the eyes, a little shorter than the face, entirely dark reddish, with the 3rd joint about twice as long as the 2nd; arista microscopically pubescent. Palpi and proboscis dark yellowish. Thorax entirely

black on the back, with short yellowish pubescence and with dark grey dust, which makes it opaque; the pleurae are more shining, but always with a faint grey dust. The bristles are black and strong; *dc.* placed before the line of the *a. sa.*; 1 *mpl.*; *st.* much stronger than the *pt.*; *scp.* not distinct. Mesophragma shining black; scutellum short and broad, very like the thorax, with only the basal pair of bristles, which are strong and very long. Halteres pale yellowish. Abdomen long and narrow, entirely black, with a dark brassy dust, with short black pubescence and with undeveloped bristles at end; it is slightly but distinctly shining; ovipositor more shining; venter entirely black. Legs rather long; coxae dark brown, with whitish dust; femora black, with narrowly reddish tips; 4 anterior tibiae reddish, more broadly on the front pair; tarsi reddish; front femora with 2 stout bristles beneath; hind tibiae without posterior row of bristles. Wings like those of *angusta*, but not so narrow at base, the axillary cell being well developed; costal bristle long and double; stigma short; 3rd longitudinal vein at end parallel with the 4th; small cross-vein placed on the last fifth of the discoidal cell; hind cross-vein much longer than its distance from the small one, and S-shaped; lower angle of the anal cell acute but not produced. The pattern is very like that of *angusta*; but there is no isolated black band in the hyaline part of the base, there being only a marginal streak in the 1st costal cell, ending obliquely in the middle of the 2nd costal cell; of the two hyaline indentations of the fore border, the first ends truncately at the 3rd and the 2nd ends acutely at the 4th vein, the black streak between them being oblique and rather broad. The three indentations of the hind border are oblique and narrow; the first crosses the base of the discoidal cell, ending at the 4th vein; the 2nd, which is the narrowest and shortest of all, enters with a point into the discoidal cell; the 3rd ends at the fourth vein just along the hind cross-vein. There are no hyaline isolate spots; the axillary cell is greyish hyaline. The veins are black, but they are pale yellowish in the hyaline indentations, which are distinctly whitish in colour.

Type ♀, a single specimen from N. W. Rhodesia, Chilanga, 30.vii.1913. (R. C. Wood).

4. **Aciura caeca**, Bezzi, Bull. Soc. Ent. Ital., xxxix (1907), 1908, p. 150.

Distinguished by the entirely black discoidal cell and by the second costal cell not being margined with fuscous.

Originally described from Erythraea, Keren, and not found subsequently.

5. **Aciura tetrachaeta**, sp. nov. (Pl. i, fig. 4).

Very like the above-described *semiangusta*, but distinguished by its greater size, 4 scutellar bristles and differently patterned wings.

♀. Length of the body, 5 mm.; of the ovipositor, 3 mm.; of the wing, 5.5 mm. Head and its bristles and appendages as in *semiangusta*, but the front is more lightly coloured and has no distinct black, triangular ocellar plate; the lunula is much broader and more developed than usual. Thorax, scutellum and mesophragma entirely brassy black, rather shining, with faint dust; on the back the short pubescence seems to be black; the bristles are black; the apical pair of the scutellum are half as long as the basal ones and cross each other. Halteres with black knob.

Abdomen shining, with no distinct dust and with very short black pubescence, the ovipositor is very long, and when completely exerted measures 4 mm., in length. Legs black, with yellowish coxae and tarsi, and the four anterior tibiae yellowish; front femora with 3 bristles beneath; hind tibiae with a row of short black bristles. The wings are as in *semiangusta*, but still broader and with the axillary cell broader; costal bristle long; cross-veins less approximate, the hind one S-shaped; lower angle of the anal cell a little more produced. The pattern is also very similar, but the marginal basal streak is complete, being equally broad from the base to the stigma; the two anterior indentations are of equal length, their tips passing a little beyond the 3rd longitudinal vein; the two posterior indentations end at the 5th vein and thus do not enter into the discoidal cell, which is entirely black; the first of these indentations has a slight greyish shade towards its middle.

Type ♀, a single specimen from N. W. Rhodesia, Chilanga, 23.vii.1913 (*R. P. Wood*).

6. **Aciura capensis**, Rondani (1863).

This species seems to be allied to the preceding ones and has likewise 4 scutellar bristles; but it is distinguished by the hyaline apical indentation, which is wanting in all the other species.

Described from the Cape and not found subsequently.

7. **Aciura ternaria**, Loew, Berl. Ent. Zeits., v, 1861, p. 273, pl. ii, fig. 10.

A very distinct species owing to its wing pattern, which is very different from that of all the preceding species and is very near to that of *Tephrella*; it may therefore belong to this latter genus, but Loew says that the thorax is black.

Originally described from Caffraria, and not recorded subsequently.

8. **Aciura binaria**, Loew, Berl. Ent. Zeits., v, 1861, p. 274, pl. ii, fig. 11.

A little species, smaller and shorter than the preceding ones, and very different from all on account of its very peculiar wing pattern.

Described from Caffraria; there is a male specimen from Umbilo, Durban, 26.iv.1914 (*L. Bevis*).

The present species may perhaps be better placed in *Spheniscomyia*; but it is left here on account of its 2 scutellar bristles and its 3 lower *or.* bristles; it needs evidently the formation of a new genus, as is shown by its very peculiar wing pattern. Costal bristle distinct; hind cross-vein arched outwardly; lower angle of the anal cell acute but not produced.

XXIII. SPHENISCOMYIA, Bezzi (1913).

I have redescribed the genus in my paper on the Indian fruit-flies; but at present it may be characterised by the peculiarly banded type of wing pattern, and by the 4 scutellar bristles, the apical pair being as stout or stouter than the basal one, and being divergent instead of crossed; the frons is shorter and has only 2 pairs of lower *or.*; the hind cross-vein is long, straight, and perpendicular. The genus is thus restricted to two very widely spread species, of which only one is at present recorded from Africa and is represented in the collection.

1. **Sphenisomyia sexmaculata**, Macquart (1843); Bezzi, Mem. Ind. Mus., iii, p. 148, pl. x, fig. 53.

This easily recognisable species is known from many localities in the Ethiopian region. There are some specimens from Nyasaland, Chiromo, Ruo R., May 1916 (*R. C. Wood*); and I have received numerous specimens from Erythraea, Ghinda, October-December 1916 (*Dr. A. Mochi*).

XXIV. TEPHRELLA, Bezzi (1913).

Originally proposed by me for an Indian species with only 2 scutellar bristles, with ill-developed costal bristle, and with *Aciura*-like pattern of wings with 3 hyaline spots in the middle. I adopt it here for a very homogeneous group of African species, which has 4 scutellar bristles, well developed and often double costal bristle and no hyaline spots in the middle of the wings. All the known species have been found also in Erythraea, and they may be distinguished as follows:—

- 1(10). Apex of the wings devoid of hyaline spots.
- 2(7). In the second posterior cell there is a single hyaline indentation.
- 3(6). Apical half of the submarginal cell entirely black, without hyaline spot; costal cells margined with black.
- 4(5). The second hyaline indentation of the fore border is not united with the middle indentation of the hind border *bezziana*, Enderl.
- 5(4). The second hyaline indentation is united with the middle one, thus forming a single hyaline band in the middle of the wing extending from the fore to the hind border *nigricosta*, Bezzi.
- 6(3). Apical half of the submarginal cell with a broad hyaline spot just before the end of the second longitudinal vein; costal cells not margined with black *cyclopica*, Bezzi.
- 7(2). Second posterior cell with 2 hyaline indentations, or with a second broad hyaline spot.
- 8(9). Third posterior cell with a single hyaline indentation, as usual; abdomen wholly black *tephronota*, Bezzi.
- 9(8). Third posterior cell with a broad hyaline spot besides the indentation; abdomen wholly red *rufiventris*, sp. n.
- 10(1). Apex of the wings with a broad hyaline spot between the ends of the 3rd and 4th longitudinal veins *hessii*, Wied.

1. **Tephrella bezziana**, Enderlein, Zool Jahrb., xxxi, 1911, p. 424, fig. F.

Originally described as a *Trypeta* from Asmara, Erythraea, and very like the following species, of which it is obviously only a form and probably the typical one, in which the middle indentations of the wings are not fused together to form a single hyaline band across the whole wing.

2. **Tephrella nigricosta**, Bezzi, Bull. Soc. Ent. Ital., xxxix (1907), 1908, p. 156.

Described from Erythraea, Ghinda and Keren, and not found subsequently.

3. **Tephrella cyclopica**, Bezzi, Bull. Soc. Ent. Ital., xxxix (1907), 1908, p. 152.
W-fuscum, Enderlein, Zool. Jahrb., xxxi, 1911, p. 425.

A very distinct species owing to the broad hyaline spot before the end of the submarginal cell (Pl. iv, fig. 5). Described from Erythraea, Keren; and if I have well interpreted the short description of Dr. Enderlein, *Trypeta W-fuscum*, likewise described from Erythraea, is the same species. There are in the collection two specimens from the Sudan, Khartoum, 29.x.1910 (*H. H. King*).

4. **Tephrella tephronota**, Bezzi, Bull. Soc. Ent. Ital., xxxix (1907), 1908, p. 154.
 A species which is easily distinguished by its wing pattern.

Described from Erythraea, Adi Caie, and not found subsequently.

5. **Tephrella rufiventris**, sp. nov.

This species is very distinct from all the others here recorded on account of its red (not black) abdomen and of its 4 (not 3) hyaline indentations or spots on the hind border of the wings.

♀. Length of the body, 4.5 mm.; of the ovipositor, 0.8 mm.; of the wing, 4 mm. Head entirely yellowish, but the occiput with a broad, blackish, grey-dusted spot in the middle; frons narrow, not broader than the eye, entirely opaque and devoid of dark markings, even the ocellar area not being infuscated; face short, cheeks linear, jowls narrow and without any spot. Antennae entirely yellow, as long as the face; third joint rounded at the tip; arista microscopically pubescent. Proboscis and palpi pale yellowish, the latter with yellowish hairs. Cephalic bristles dark yellow, only the *oc.* and the upper *or.* being infuscated or even blackish. Thorax black, with only the humeral calli reddish, but it is densely clothed with brassy dust, being however rather shining; on the pleurae the dust is of a more grey colour; the short pubescence of the back is yellow; the bristles



Fig. 2. *Tephrella rufiventris*, Bezzi, sp. n.

are dark yellowish or more or less infuscated; the *dc.* are placed a little before the line of the *a. sa.* Scutellum flat, triangular, its dust being a little more faint than that of the thorax; there is a little yellow pubescence on the disc and 4 long marginal bristles, blackish in colour, those of the middle pair being decussate at the tip and only a little thinner than the basal ones. Post-scutellum and mesophragma shining black, with grey dust. Halteres pale yellowish. Abdomen entirely red, even on the venter, shining, with short yellow pubescence and with dark yellowish bristles at end; ovipositor shining black, but with the apical segment reddish, and if exerted measuring 1.5 mm. in length. Legs and coxae entirely reddish yellow; front femora with 1-2 stout and dark yellowish bristles beneath; hind tibiae with no distinct postical row. Wings with strong costal

bristle; the blackish pattern is in general of the usual type, but the costal cells are not margined with black, and thus the base of the wings is broadly whitish hyaline, without dark markings; the short stigma is black; the first hyaline indentation of the fore border ends at the 3rd longitudinal vein, while the second enters with a short point into the first posterior cell. At the hind border there are 4 hyaline spots, 2 in the 2nd and 2 in the 3rd posterior cell; the first or basal is the largest of all, of rounded shape and fused with the hyaline axillary cell; the second is a rather small and rounded spot; the third is a narrow, long, sinuous indentation, which along the hind cross-vein reaches the 4th longitudinal vein; the fourth or last is a spot of oval outline, placed at about the middle of the third posterior cell. The veins are black, but they are pale yellowish at base, and ferruginous in the hyaline indentations of the fore border.

Type ♀, a single specimen in the author's collection from Erythraea, Ghinda (*Dr. A. Mochi*). It is curious to note that *Dr. Mochi* has found in Erythraea the present species alone, which is certainly different from the four other species previously found in Erythraea.

6. *Tephrella hessii*, Wiedemann (1819).

Originally described from the Cape, and never recorded subsequently.

I place this species here provisionally, on account of its wing pattern, which is however more marked than in the preceding species. It consists of 2 hyaline indentations at the fore border and 4 at the hind border, 2 in the 2nd and 2 in the 3rd posterior cell; there are besides a broad apical hyaline spot, another hyaline spot below the end of the 2nd longitudinal vein (as in *cyclopica*) and a small hyaline triangular indentation at the end of the submarginal cell.

III. Subfamily TRYPANEINAE.

XXV. PLATENSINA, Enderlein (1911).

This Oriental genus, which was independently described by me in 1913 under the name of *Tephrostola*, is well represented also in the Ethiopian fauna. It belongs to the group of the forms which must be considered as a connecting link between the two subfamilies, CERATITINAE and TRYPANEINAE, and between the forms with an indented and those with a reticulate wing pattern. With these forms are to be included the "genus" *Tephrella* (which owing to the fact of its *Aciura*-like wing pattern was placed by me at the end of the preceding subfamily), and the "genera" *Platensina*, *Pliomelaena* and *Spathulina*, in which the pattern is more like the reticulate type, but in which the black parts always predominate over the hyaline ones.

In the present subfamily the distinction of the genera is even more unsatisfactory, and I have based it mainly on the characters of the wing pattern; but there are passages from *Pliomelaena* to *Euaresta* and from the latter to *Euribia*, and thus it is not always easy to find a definite means of distinguishing them. In the table of the genera I have placed *Tephrella* and *Platensina* in both subfamilies, because in some cases a doubt may arise as to whether the occipital bristles are of the Ceratitine or of the Trypaneine type.

The Oriental species of the present genus are *acrostacta*, Wied., *reinhardi*, Wied., *sumbana*, Enderl., and probably also *Tephritis euryptera*, Bezzi; of African species I refer to it the following:—

1. **Platensina diaphasis**, Bigot, Ann. Soc. Ent. France, lx, 1891, p. 384.

Described from Assinia as an *Oedaspis*, there are in the collection two specimens from the Gold Coast, Aburi, 1912–13 (*W. H. Patterson*).

To the description of this West African species may be added:—

Head entirely yellowish, immaculate; frons narrower than the eye; antennae shorter than the face, the third joint rounded at tip, with a shortly plumose arista; cheeks and jowls linear; proboscis thick. Cephalic bristles black, but the *pv.* and the outer *vt.* yellowish, those of the occipital row being yellow but rather acute at end; inner *vt.* very long and dark yellowish on their apical half; *oc.* stout; *or.* 2 + 3. Thorax and scutellum opaque, being clothed with a dense grey dust; the pleurae and the scutellar border are distinctly reddish; the mesophragma is black, rather shining, with a faint greyish dust. Thoracic and scutellar bristles dark yellowish, but sometimes they are blackened at the extreme base; the *dc.* are placed before the line of the *a. sa.*; *sep.* not distinct; *mpl.* 1; *pt.* stouter than the *st.*; apical scutellar bristles about as long as the basal ones, and decussate at the tip. The short pubescence of the back is black; the very large and flat, triangular scutellum is bare on the disc, bearing some pale hairs on the sides. Abdomen shining black, with black pubescence and with short black bristles; the narrow sides of the first two segments and greater part of the venter are reddish; ovipositor of a shining blackish-brown colour, flat, 0·8 mm. long. Front femora with 2–3 very stout and yellowish bristles beneath; hind tibiae without distinct row. Wings (Pl. i, fig. 6) broad, with a distinct costal bristle and with a very narrow axillary lobe; 2nd and 3rd longitudinal veins very divergent towards the end; 3rd vein bare; hind cross-vein straight, as long as its distance from the small one or only a little longer; small cross-vein placed beyond the middle of the discoidal cell; lower angle of the anal cell acute and a little produced.

Note.—The very characteristic *Trypeta lunifera*, Loew (Berlin. Ent. Zeits., v, 1861, p. 268, pl. ii, fig. 7), from Caffraria, has the wings very broad and a bare arista; it is very doubtful whether it belongs here or not, because Loew does not say if the 3rd longitudinal vein is bristly or bare, and because its yellow pleural stripes show probable affinity with the CERATITINAE.

XXVI. **EUTRETOSOMA**, Hendel (1914).

The present genus was erected incidentally by Prof. Hendel in his great work on the South American Trypanoids, with the type *Eutreta oculata*. I have adopted this name here for the reception of some species which are distinguished by their broad and rounded wings, but differ from the preceding ones in having very numerous hyaline spots on the disc and in having a well developed axillary lobe; they have besides black spots on the face and on the frons, thus approaching the American species of *Eutreta*.

This genus is also represented in the Oriental Region, as I have an undescribed Indian species before me. The African species provisionally placed here can be distinguished as follows:—

- 1(2). Wings with the fore half yellow and adorned with some eye-like spots; very small species of 2·5 mm. in length *oculatum*, Hend.
- 2(1). Wings not so patterned; species of greater size.
- 3(8). Legs yellow; wings with very numerous and very small, pale dots.
- 4(5). Apex of the wings with a broad black border, which is devoid of hyaline spots *frauenfeldi*, Schin.
- 5(4). Apex of the wings with a hyaline spot.
- 6(7). Stigma immaculate; no black spots on the disc of wings .. *bipunctatum*, Loew.
- 7(6). Stigma with 2 hyaline spots near the costa; on the disc of wings there are some spots of a deep black colour *millepunctatum*, sp. nov.
- 8(3). Legs black, with white rings at knees, on tibiae and on hind tarsi; wings with 4 connected white apical spots *polygramma*, Walk.

1. **Eutretosoma oculatum**, Hendel, Abh. Ber. K. Zool. Mus. Dresden, xiv (1912), 1914, p. 55, pl. iii, fig. 43.

A small species, and very distinct owing to its peculiar wing pattern.

Described from Mozambique, Rikatla.

2. **Eutretosoma frauenfeldi**, Schiner, Novara Dipt., p. 276, pl. iii, fig. 4 (1868).

Described as an *Icaria* from the Cape, and not recorded subsequently; it may be distinguished by the black border of the wings.

3. **Eutretosoma bipunctatum**, Loew, Berl. Ent. Zeits., v, 1861, p. 280, pl. ii, fig. 15.

Recognisable by the broad hyaline spot at the apex of the wings, between the ends of 3rd and 4th longitudinal veins. Described as a *Trypeta* from the Cape and not recorded subsequently.

4. **Eutretosoma millepunctatum**, sp. nov.

Easily recognised by the white marginal and black discoidal spots of the wings.

♀. Length of the body, 4 mm.; of the ovipositor, 1·2 mm.; of the wing, 4 mm. Head entirely yellowish; occiput with 4 blackish spots, 2 in the middle above the neck, and one on each side of the upper border of the rather distinct lateral swellings; frons with parallel sides, broader than the eye, without dark ocellar spot, but with a velvety black streak in front on each side of the root of the antennae; lunula broad; face with a dark brown cross-band near the mouth-border; cheeks linear; jowls narrow, with a brown spot on the sides, near the rather prominent upper mouth-border. Antennae short, not exceeding the middle of the face, entirely reddish yellow; second joint globular, prominent, beset with numerous short and thick black spicules; 3rd joint as long as the 2nd, rounded at tip, with a narrow dark basal border; arista with short but distinct pubescence. All the cephalic bristles are of a pale yellowish colour, but the occipital row is formed by numerous short, thick, black bristles and among them some (3-4) yellow ones; *or.* 2 + 3; *oc.* stout. Thorax reddish brown, with a broad blackish middle patch and with blackish rounded spots at the base of the macrochaetae; pleurae more reddish, with two black spots

on the mesopleura and a broader one on the sternopleura; scutellum reddish, broadly black at base above, and with 4 black spots at the base of the 4 macrochaetae; mesophragma black. All the bristles are pale yellowish; *dc.* placed much before the line of the *a. sa.*; 1 *mpl.*; *scp.* indistinct; the pubescence of the back is yellowish; 4 scutellar bristles, those of the middle pair being shorter and crossed at the tips. Halteres pale yellowish. Abdomen broad, reddish brown, with 4 rows of broad black spots, the 2 middle rows being more marked; the pubescence is pale yellowish, but is black on the black spots; bristles black; ovipositor flat, reddish. Legs entirely reddish, but the femora with two black spots in the middle forming a more or less complete ring, which is more developed on the hind pair, in which there is also a black spot at base beneath; front femora with 4-5 yellowish bristles beneath; hind tibiae with a well-developed row of black bristles. Wings broad and rounded, with obtuse end and with rather broad axillary lobe; costal bristle long and double; small cross-vein placed beyond the middle of the discoidal cell; lower angle of the anal cell shortly produced. The wings are entirely and intensely black, even at the extreme base and on the axillary lobe; they are adorned with very numerous whitish dots, which are more abundant in the marginal and submarginal cells, and scarcer in the hind half of the wing; on the axillary lobe they are fewer but broader; besides in the middle of the wing there are some more intensely black spots on the 3rd and 4th longitudinal veins, four of which are better defined and form a square, being symmetrically placed about the small cross-vein. Around the whole border of the wings there is a series of slightly larger and more whitish, elongate spots, 1 in the first costal cell, 2 in the second costal, 2 in the stigma (the first being the smaller), 3 in the marginal, 2 in the submarginal (the second of which is smaller), 1 at end of the first posterior cell occupying the space between the ends of 3rd and 4th longitudinal veins, 4 in the second posterior cell, the last of which is much smaller, 3 in the third posterior cell being all very small, and 4 or 5 in the axillary cell, which are larger and more elongate. Third longitudinal vein bare.

Type ♀, a single specimen in the writer's collection from Erythraea, Ghinda, March 1916 (*Dr. A. Mochi*).

5. *Eutretosoma polygramma*, Walker (1861).

The peculiar wing pattern and the very different coloration of the legs are distinctive features.

Described from Natal, and not recorded subsequently.

XXVII. ELAPHROMYIA, Bigot (1859).

Of this very peculiar genus, which I described for the Oriental fauna under the name of *Paralleloptera* (1913), there are in Africa the two following species:—

1. *Elaphromyia adatha*, Walker (1849).

Described from Congo and not recorded subsequently; it is closely allied to the following species, from which it seems to be distinct in having the wing base broadly hyaline.*

* [In *E. adatha* it is not the basal half of the wing that is hyaline, but the basal half of the posterior border only; *E. ulula* is undoubtedly synonymous with this species.—ED.]

2. **Elaphromyia ulula**, Loew, Berl. Ent. Zeits., v, 1861, p. 279, pl. ii, fig. 14.
—? *melas*, Bigot, Rev. Mag. Zool., vii, 1859, p. 10.

A very characteristic species, the synonymy of which was established by Prof. Hendel in 1914. Loew described it from N'Gami, collected by Wahlberg; and Bigot has it from Port Natal.

XXVIII. SPATHULINA, Rondani (1856).

This old name is used here for a natural group of species, which was already indicated by me in my paper of 1908 on the Diptera of Erythraea (pp. 160–161) and in my paper of 1913 on the Indian fruit-flies (p. 160). I had previously called this group *Melanoxyina* in my collection; but at present I think that Rondani's name is quite applicable to it. The name *Spathulina* was first proposed in the Prodr., i, 1856, p. 113, with the type species *S. sicula* (undescribed, but in the generic diagnosis is the remark: *proboscis paulo producta*); in 1871 the genus was by its author united with *Ditricha* (type *guttularis*); but in the same paper is to be found the description of *D. sicula*, which is evidently the same as *Tephritis tristis*, described from Spain by Loew in 1869. I think therefore that as type of the genus *Spathulina* must be assumed the species *tristis*, Loew (= *sicula*, Rondani); and that in it are to be placed the Oriental *parca*, Bezzi (1913), the Egyptian *parceguttata*, Becker (1903), and the following Ethiopian species:—

- 1(6). Stigma devoid of hyaline spots.
2(3). Marginal cell with only 2 hyaline spots; submarginal cell entirely black at end *semiatra*, Loew.
3(2). Marginal cell with 3 hyaline spots; submarginal cell broadly hyaline at end.
4(5). The apical hyaline spot of the submarginal cell is well separated from that of the first posterior cell *parceguttata*, Beck.
5(4). Apical spot of the submarginal cell broadly united with that of the first posterior cell, thus forming a broad hyaline patch, in which there is an isolated black spot at end of the 3rd longitudinal vein *acrosticka*, sp. n.
6(1). Stigma with hyaline spot.
7(8). Marginal, submarginal and first posterior cells, each with only 2 hyaline spots; discoidal cell likewise with 2 hyaline spots *aldabrensis*, Lamb.
8(7). The above-named cells each with 4 hyaline spots; discoidal cell with 3 hyaline spots *margaritifera*, Bezzi.

1. **Spathulina semiatra**, Loew, Berl. Ent. Zeits., v, 1861, p. 276, pl. ii, fig. 12.

Originally described from Caffraria, and not found subsequently. The scutellum of the present species is described as having 4 bristles.

2. **Spathulina parceguttata**, Becker, Mitt. Zool. Mus. Berlin, ii, 1903, p. 134, pl. 4d, fig. 48.

Described from Egypt, Cairo, and here recorded only on account of its great resemblance to the following species, and therefore of its probable presence in the Ethiopian region.

3. **Spathulina acrosticta**, sp. nov.

A species very distinct from any other on account of the isolated black spot at the end of the third longitudinal vein.

♀. Length of the body, 3·5 mm. ; of the ovipositor, 0·6 mm. ; of the wing, 3·5 mm. Head rather depressed, entirely pale yellowish, with the occiput a little infuscated in the middle and the frons with a yellow middle stripe ; all the bristles are black, but the *prt.*, the *vt.* and those of the occipital row are whitish ; there are 2 lower *or.* Antennae shorter than the face, yellow, with the third joint rounded at end ; arista bare. Palpi and proboscis yellow. Thorax and scutellum black, clothed with a dense grey dust, opaque ; the bristles are black, only the *pt.* being whitish ; mesophragma black, faintly dusted. Scutellum with only the basal pair of bristles. Abdomen entirely shining black, with black bristles ; ovipositor shining black, obtuse, depressed. Legs entirely yellow ; hind tibiae without distinct row of bristles. Wings elongate, broadly hyaline at base, with the following hyaline spots : 1 at end of the second costal cell, limited interiorly by a narrow black streak ; 3 of about equal size in the marginal cell ; 2 in the submarginal cell, one below the middle of the three above named, and the other at the end ; 2 of greater size and of rounded shape before and behind the small cross-vein ; 1 at end of the first posterior cell, forming the broad hyaline apical patch in which is the isolated black spot.

Type ♀, a single partly damaged specimen from Durban, Umbilo, 26.iv.1914 (*L. Bevis*).

4. **Spathulina aldabrensis**, Lamb, Trans. Linn. Soc. London, Zool., xvi, 1914, p. 319, fig. 12 & pl. xix, fig. 9.

Described as a *Tephritis* from the Island of Aldabra. The scutellum has a long basal and a very small apical pair of bristles.

5. **Spathulina margaritifera**, Bezzi, Bull. Soc. Ent. Ital., xxxix (1907), 1908, p. 160.

Closely allied to *semiatra*, but easily distinguished by the more numerous hyaline spots of the wings.

Described from Erythraea, Adi Ugri.

XXIX. EUARESTA, Loew (1873).

This artificial genus is taken here in a somewhat wider sense than that attributed to it by Loew, and more corresponding to that used by Hendel, but without the restriction of the radiating marginal wing pattern. Thus I provisionally place here the species which differ from *Euribia* in having a more extensive black pattern on the wings, with a few hyaline spots. They are distinguished from the preceding genus in having a short proboscis and usually 4 scutellar bristles of equal size. But this latter character must be used with caution, because in some species (for example, in *megacephala*, Loew) the apical bristles are wanting.

For the species in which the black pattern of the wing is not radiating at apex, the new subgenus *Pliomelaena* is erected here. The African species can be distinguished as follows :—

- 1(2). Black wing pattern radiating at end and at the hind border (*Euaresta* s. str.) ; stigma entirely black ; the greater part of the third posterior cell and the whole axillary cell hyaline. *planifrons*, Loew.

- 2(1). Black wing pattern not radiating, the hyaline apical spots being smaller (*Pliomelaena*, subgen. nov.); stigma with a yellowish or hyaline spot at base; axillary and third posterior cell infuscated, with hyaline spots.
- 3(4). Halteres whitish; frons as broad as or broader than the eye; first posterior cell with 2 hyaline dots, besides the apical hyaline spot . . . *brevifrons*, sp. n.
- 4(3). Halteres with blackish knob; frons narrower than the eye; first posterior cell with a single hyaline spot *strictifrons*, sp. n.

1. ***Euaresta planifrons***, Loew, Berl. Ent. Zeits., v, 1861, p. 277, pl. ii, fig. 13.

A true *Euaresta*, very like the Mediterranean *pulchra*, Loew.

Described from Caffraria, and not recorded subsequently.

I have seen a male specimen from Grahamstown (*Miss M. Daly* and *Miss M. Sole*), June 1903, which differs only in having the base of the 3rd posterior cell entirely black, thus only the axillary cell is hyaline.

Subgenus PLIOMELAENA, nov.

2. ***Euaresta (Pliomelaena) brevifrons***, sp. nov. (Pl. i, fig. 8).

A species very much like true *Euribia*, but with more sparse hyaline spots on the wings, the black pattern being prevalent.

♂♀. Length of the body, 4-4.5 mm.; of the ovipositor, 1 mm.; of the wing, 4-4.5 mm.

Head yellowish, unspotted, with only a darkish central area on the middle of the occiput; frons opaque, about as broad as long; face short, with rather prominent mouth-border; cheeks linear; jowls narrow. Antennae entirely yellowish, about as long as the face; third joint obtuse at end, as long as the first two joints together, with a bare arista; palpi and proboscis yellowish, the latter being short and not geniculate. Cephalic bristles long and stout; *pt.* and *vt.* yellowish, like those of the occipital row, which are typical; *oc.* and *or.* dark yellowish or blackish; 3 lower *or.* Thorax black, but clothed with dense grey dust, so that the ground colour is invisible; pleural sutures slightly reddish; the back is clothed with yellowish pubescence. Chaetotaxy complete; bristles dark yellowish or blackish, those of the back being inserted on small black dots; no distinct *sep.*; 2 *mpl.*, the lower one being smaller; *st.* and *pt.* stout. Scutellum large, triangular, flat, black and grey-dusted on the disc, reddish at border and below, with 4 equally long yellowish bristles, inserted on small black dots, those of the apical pair being crossed. Mesophragma black, with dense greyish dust. Halteres whitish. Abdomen shining black, with short yellowish pubescence, and dark yellowish or blackish bristles; ovipositor flat, shining black, elongate, acute. Male genitalia black, rounded, prominent. Legs entirely pale yellowish; front femora with yellow bristles beneath; hind tibiae with an indistinct hind row, more distinct near the middle in the female. Wings elongate with distinct costal bristle; third longitudinal vein bare; second vein slightly divergent, third and fourth parallel; the two cross-veins are straight, perpendicular and parallel; lower angle of the anal cell acute but not produced. The base is hyaline up to the basal and anal cross-veins, but with a brown spot in the middle of the second costal cell at fore border; stigma elongate, with a hyaline

basal spot; marginal cell with 3 hyaline spots, the first two being larger and more approximated; submarginal cell with 3 hyaline spots, the largest of which is placed below the first two spots of the marginal cell, forming with them a pyramid, the second is very small, and is placed just after it, and the middle-sized third one is placed at the fore border a little behind the end of the second longitudinal vein; first basal and first posterior cells in all with 4 hyaline spots, one before and one beyond the small cross-vein, one in middle and one at end, this last being rather small, and therefore the black is not radiating; discoidal cell with 2 hyaline spots, a middle one of greater size and one placed before the middle of the hind cross-vein; 2nd posterior cell with 3 elongate hyaline spots, forming 3 indentations; third posterior and axillary cells with 8-10 hyaline spots, forming a kind of reticulation.

Type ♂, type ♀, a single couple of specimens from Durban, Umbilo, 21.vi.1916 (*L. Bevis*).

Another male specimen from the same locality, but caught 21.ii.1914, is a little different in the wing pattern, the discoidal spots being much smaller, chiefly that in the middle of the discoidal cell; the 3 indentations of the 2nd posterior cell are shorter, the last being divided into several smaller spots. In this specimen also all the bristles of the head and body are of a pale yellowish colour.

3. *Euaesta (Pliomelaena) strictifrons*, sp. nov. (Pl. i, fig. 7).

Nearly allied to the preceding species, but distinguished by the narrower frons and the somewhat different wing pattern.

♀. Length of the body, 5 mm.; of the ovipositor, 1 mm.; of the wing, 5 mm. Head and its appendages as in the preceding species, but the frons is much narrower, being narrower than the eye and only twice as long as broad; the 3 lower *or.* are black. Thorax black on the disc, reddish on the sides of the back and on the whole of the pleurae; scutellum black with reddish border; all the bristles are yellowish; the pubescence and the dust of the back are not well preserved in the type. Mesophragma shining black, with faint dust. Knob of the halteres blackish. Abdomen shining black, with black pubescence; it is more elongate than that of the preceding species, but the ovipositor is shorter and broader. Legs entirely pale yellowish and more slender; front femora with 3 darkish bristles beneath. Wings like those of *brevifrons*, but with the following differences: they are distinctly broader, and thus the second longitudinal vein is more divergent; the costal cell has 2 broad and rounded brown spots; the basal hyaline spot of the stigma is broader; the third and smaller hyaline spot of the marginal cell is wanting; submarginal cell with another hyaline spot at the extreme base; the middle hyaline spot of the first posterior cell is wanting; the discoidal cell has a single hyaline spot; the second posterior cell has likewise 3 hyaline spots, but they are smaller and not like indentations; third posterior and axillary cells with less numerous and smaller hyaline spots.

Type ♀, a single damaged specimen from Durban, Umbilo, 20.xii.1913 (*L. Bevis*).

XXX. *ENSINA*, Robineau-Desvoidy (1830).

As already stated by Prof. Hendel, the present genus must be extended to embrace other species besides the typical *sonchi*; and since the prolongation of the

proboscis is very variable in the different species, I think it is better to restrict the genus to those in which the form of the head has the very characteristic shape which may be seen in *sonchi* and in *sorocula*. But in addition to these, the African fauna contains a number of species with a very long proboscis, in which the head is less or not at all depressed, like *dubia*, *anceps*, *ignobilis*; even these species must be provisionally placed here. The species in which the apical part of the proboscis is shorter than the lower part of the head, are to be placed in *Euribia*, the genus *Oxyina* being restricted to the very peculiar group of *flavescens* and closely allied forms.

Thus defined, the artificial genus *Ensina* will contain the following Ethiopian species:—

- 1(2). Head depressed, with the lower border very long; wings with a faint and scattered reticulation *sorocula*, Wied.
- 2(1). Head not or less depressed, with the lower border less elongate.
- 3(6). Wings banded, *i.e.*, with the reticulation reduced to form some dark bands..
- 4(5). Apex of the wings, between the ends of 3rd and 4th longitudinal veins, with a hyaline spot *myiopitoides*, Bezzi.
- 5(4). Apex of the wings between the above-named veins entirely black
anceps, Loew.
- 6(3). Wings reticulate as usual.
- 7(10). Stigma black, with or without hyaline spot; wing pattern of a dark brown colour.
- 8(9). Femora yellow; first basal cell, and the submarginal and discoidal cells at base with very numerous hyaline spots; stigma black *dubia*, Walk.
- 9(8). Femora with black base; the above-named cells with only a few hyaline spots; stigma with a more or less developed hyaline spot
ignobilis, Loew.
- 10(7). Stigma yellow; femora yellow; wings with a very faint pattern
siphonina, sp. n.

1. ***Ensina sorocula***, Wiedemann (1830).

A typical *Ensina*, which has a very wide distribution in tropical and subtropical countries of the Old World, and possibly even in America, *piceiola* or *humilis* being probably only a variety of it.

The male of *E. bisetosa*, Enderlein (1911), from Formosa, is this same species, while the female belongs to some other species.

There are in the collection several specimens from Nyasaland, Chiromo, Ruo R., May 1916 (*R. C. Wood*); from Durban, Umbilo, 24.v.1916 (*L. Bevis*); and I have received numerous specimens from Erythraea, Ghinda, March 1916 (*Dr. A. Mochi*). In my paper of 1908 the species is recorded under the name of *vacillans*, Wollaston.

2. ***Ensina myiopitoides***, Bezzi, Bull. Soc. Ent. Ital., xxxix (1907), 1908, p. 158.

Recognisable by the brown pattern of the wings being disposed in bands, though not so distinctly as in the following species.

Described from Erythraea, Adi Ugri, and not found subsequently.

3. **Ensina anceps**, Loew, Berl. Ent. Zeits., v, 1861, p. 283, pl. ii, fig. 17.

Very distinct from any other species on account of the well differentiated dark bands of the wings.

Originally described from Caffraria, I have received from Grahamstown several specimens, which differ in some points from the Loew's description. The longer vertical bristles are black; the bristles of the occipital row are black, but those of the upper border are whitish; on the wings there is a dark band going from the middle of the 2nd costal cell to the 4th longitudinal vein, of which there is no trace in Loew's figure; moreover the 3 dark bands are broader and the apical one is prolonged over the 4th longitudinal vein.

4. **Ensina dubia**, Walker (1853), Loew, Berl. Ent. Zeits., v, 1861, p. 288, pl. ii, fig. 20.

Very distinct on account of its rich wing-pattern, and thus presumably belonging to some other genus.

Described from the Cape and Caffraria, and not found subsequently.

5. **Ensina ignobilis**, Loew, Berl. Ent. Zeits., v, 1861, p. 293, pl. ii, fig. 23.

Allied to *sororcula*, but with the head not depressed.

Originally described from the Cape, I have seen a female specimen from Grahamstown, October 1903 (*C. W. Mally*), which shows a rounded pale yellowish spot in the stigma. Characteristic for the present species is the small cross-vein broadly margined with fuscous. Another female specimen from Grahamstown, April 1903 (*Miss M. Daly* and *Miss M. Sole*), has the stigma entirely black and thus seems to belong to a different species, with less numerous hyaline spots in the middle of the first posterior cell.

6. **Ensina siphonina**, sp. nov.

Distinct from all the other species on account of its yellow stigma and of its very faintly marked reticulation of the wings. It is placed in the present genus only on account of its very long and bicubitate proboscis, which is about as long as the entire body.

♀. Length of the body, 4 mm.; of the ovipositor, 0.7 mm.; of the wing, 4 mm. Head as broad as high, not depressed, with the occiput swollen beneath and with the lower border rather short. Occiput black, clothed with dense grey dust, but pale yellowish and whitish-dusted at the eye borders and below; frons flattened, not prominent, broader than the eye, orange-yellow, with a narrow whitish border near the eyes; ocellar triangle greyish; face yellowish; cheeks and jowls narrow, reddish, white-dusted; mouth-border rather prominent. Antennae entirely reddish, as long as the face; third joint acute at its upper end; arista bare. Palpi reddish yellow, with some short black bristles at end; proboscis yellow, very long, its last portion being longer than the head. Of the cephalic bristles, the *prt.*, the outer *vt.* and the first of the upper *or.* are whitish, like the short bristles of the occipital row; all the other bristles are black; only 2 lower *or.* Thorax and scutellum black, but densely grey-dusted and clothed with short yellow pubescence; on the back there are 2 brown but not much marked longitudinal stripes along the dorso-central lines;

the bristles are black and inserted on small black dots; *scp.* not distinct; 1 *mpl.*; *st.* stout; *pt.* yellow; apical scutellar bristles half as long as the basal ones and decussate. Mesophragma grey; halteres yellow; abdomen black, but densely grey-dusted, with yellow pubescence and with black bristles at end; on segments 2-4 there are 2 broad median brown spots, which are however not very distinct; venter pale greyish. The short and broad, flattened and obtuse ovipositor is shining black. Legs rather stout, entirely reddish yellow; front femora with 2-3 yellowish bristles beneath; hind tibiae with ill-developed row; the single spur of the middle tibiae is black. Wings rather narrow and elongate, with short but distinct costal bristle; 3rd longitudinal vein bare; 3rd and 4th veins perfectly parallel throughout the whole portion after the small cross-vein; hind cross-vein rather perpendicular, as long as its distance from the small cross-vein; lower angle of the anal cell distinctly produced. Veins yellow, only the two cross-veins, and some portions of the longitudinal veins corresponding to the dark spots, are blackish. The reticulation is very faint and similar to that of *Euribia lauta*, Loew (*veliformis*, Becker), but differently disposed; the stigma is entirely yellow, with a small black dot at end. The reticulation is of the type of that of *elongatula*; only the dark part forming the 3 hyaline spots of the marginal cell is a little more marked; the hyaline spots of the rest of the wing are perfectly rounded and disposed in two longitudinal rows in the discoidal and posterior cells.

Type ♀, a single specimen from British E. Africa, Embu, 12.xii.1913 (*G. St. J. Orde-Browne*).

XXXI. EURIBIA, Meigen (1800).

With the removal of the species with broad wings and with black-spotted head to form *Eutretosoma*; and of those with predominating black in the wing pattern to form *Spathulina*, *Euaresta* and *Pliomelaena*; and of those with very elongate proboscis and with depressed head to form *Ensina*; and of those with prominent frons to form *Camaromyia*; and of those with buccate head and with very broad frons to form *Campiglossa*; and of those with the fuscous pattern of the wings limited to the fore half to form *Acanthiophilus*; and of those with star-like wing pattern to form *Trypanea*, there remain in the present genus only forms with decidedly reticulate wing pattern, which covers about the whole of the wings, and is not or very slightly radiating at the apex or at the hind border, with non-depressed head, with flattened and not very broad frons, and with short or elongate proboscis; but in this last case, the apical part of the proboscis is always shorter than the lower border of the head.

Thus limited, we can distinguish in the genus the following Ethiopian species:—

- 1(4). Third antennal joint with a sharp point at its upper end; body with yellow bristles and devoid of black stripes or spots on thorax or abdomen; wings with a colourless stigma and a deep black spot in the middle of the disc.
- 2(3). Wing pattern fainter and more diffuse; abdomen mainly pale yellow; ovipositor longer than the abdomen *perpallida*, sp. nov.
- 3(2). Wing pattern more pronounced, and denser; abdomen entirely black; ovipositor much shorter than the abdomen *discipulchra*, sp. n.

- 4(1). Third antennal joint rounded at end; body with black bristles and with dark-striped or dark-spotted thorax or abdomen; wings with a coloured stigma and devoid of deep black central spot.
- 5(6). Stigma entirely black; wings with a broad black border, in which are included a few sharply defined hyaline marginal spots *praelecta*, Loew.
- 6(5). Stigma black, with a broad hyaline spot at base; wings without the above described pattern.
- 7(8). Wings with a distinct dark band, which includes several hyaline spots, across the middle, apical hyaline spot much narrower than the space between the ends of the 3rd and 4th longitudinal veins *caffra*, Loew.
- 8(7). Wings devoid of a distinct dark middle band; apical hyaline spot extending over the whole space between the above-named veins.
- 9(10). Thoracic dark stripes less distinct; subapical dark spot of the wings interrupted by some hyaline streaks *dissoluta*, Loew.
- 10(9). Thoracic stripes sharply defined; subapical spot not interrupted
tristrigata, sp. n.

1. ***Euribia perpallida***, sp. nov.

A handsome species, forming with the following one a distinct group, characterised by the sharp point of the third antennal joint and by the peculiar wing pattern.

♂♀. Length of the body, 2.5–3 mm.; of the ovipositor, 1.5 mm.; of the wing, 2.5–3 mm. Head entirely pale yellowish, with only a black, grey-dusted, double spot on middle of the occiput; frons flattened, not at all prominent, about as broad as long, with a greyish ocellar spot and with a more or less distinct longitudinal yellow middle stripe; face short, not prominent at the mouth-border; cheeks linear; jowls narrow and unspotted. Antennae entirely pale reddish, as long as the face; third joint with a sharply produced upper angle; arista whitish, bare. Proboscis thick, not bicubitate, yellowish; palpi pale yellowish, with short and whitish bristles at end. In profile the head is higher than broad, and is wholly occupied by the rounded eyes. Cephalic bristles pale yellowish, those of the occipital row thick but rather acute at end; *oc.* rather short; 2 lower *or.*; in the male specimens there is a pair of bristles in the middle of the frontal band, about as strong as the *oc.*, but wanting in the female.* Thorax densely clothed with grey dust and with yellowish pubescence; the pleural sutures are reddish; there are no distinct dark stripes on the back, only the bristles being placed on small black dots; scutellum like the thorax, but paler, and in the female with two fuscous dots; mesophragma black, grey-dusted. All the bristles are pale yellowish; the *dc.* are placed much before the line of the *a. sa.*; the middle scutellar pair is weak and crossed. Halteres yellowish. Abdomen pale yellowish; in the male there is a very narrow, blackish-grey, basal band on the 2nd and 3rd segments, and a broader one, divided into two broad spots, on the 4th segment; in the female these basal dark bands are more developed; the pubescence and the bristles are yellowish; male genitalia pale yellow; ovipositor shining reddish with black end, flattened, of elongate triangular

* These bristles seem to be homologous with the crossed frontal pair (*Kreuzborsten*) of the ANTHOMYIIDAE; their presence here may be accidental, as such bristles are not known to occur in the TRYPANEIDAE; but the present case is very important theoretically.

shape. Legs entirely pale yellowish; front femora with 2-3 yellow bristles beneath; even the spur of the middle tibiae is yellowish; hind tibiae with no distinct row. Wings elongate, with a distinct costal bristle; 3rd longitudinal vein bare and perfectly straight; last portion of the 4th vein distinctly curved at base; small cross-vein placed after the middle of the discoidal cell; lower angle of the anal cell acute but not produced. The veins are pale yellowish, but infuscated in the fuscous parts of the wing pattern. The pattern is formed by a diffuse reticulation, which is yellowish brown in colour; the base is not spotted; the stigma is quite colourless, with a black basal dot at the insertion of the costal bristle; in the marginal cell there are 2 perpendicular dark streaks, forming 3 broad hyaline spots; submarginal, first posterior and second posterior cells, each with 2 rows of ill-defined and broad, rounded hyaline spots, those of the 2nd posterior cell being more numerous in the male than in the female; discoidal cell with only the apical half darkened and in this with 4 hyaline spots disposed in 2 rows; 3rd posterior cell with some spots at border; axillary cell quite hyaline. In the middle of the wing, on the space between the 2 cross-veins, there is a more fuscous patch, which bears in the centre the characteristic elongate spot of a deep black colour, preceded by a rounded hyaline spot near the small cross-vein; this black spot recalls that which is to be observed in the North American *Euaresta bella*, Loew, but is more intense.

Type ♂ and type ♀, a single pair of specimens, from Nyasaland, Chiromo, Ruo R., 23.ix.1916 (*R. C. Wood*).

2. *Euribia discipulchra*, sp. nov.

Nearly allied to the preceding species, but certainly distinct on account of its smaller size, darker colour and much shorter ovipositor.

♀. Length of the body, 2 mm.; of the ovipositor, 0.3 mm.; of the wing, 2 mm. Head and its appendages as in the preceding species, but the frontal band is of a darker orange-yellow colour and the antennae are of a darker reddish colour. Thorax and scutellum black, densely grey-dusted; the scutellum is reddish at end, with the dark dots more distinct. The bristles are as in the preceding. Abdomen entirely black, grey-dusted, with yellow pubescence and with yellow bristles; ovipositor very short and broad, obtuse, flattened, of a shining reddish colour, with black end. Legs as in the preceding species. Wings likewise; but the dark pattern is more blackish and better defined. The dark middle patch is broader and more striking; its central deep black spot has at the 2 ends, on each side, a very sharply defined, whitish hyaline, rounded spot, which contrasts with the black streak, forming a very curious and elegant pattern.

Type ♀, a single specimen from Nyasaland, Chiromo, Ruo R., 23.ix.1914 (*R. C. Wood*).

3. *Euribia praetexta*, Loew, Berl. Ent. Zeits., v, 1861, p. 286, pl. ii, fig. 19.

Very different from all the other species on account of the extensive black pattern of the wings, and thus approaching *Euaresta*, but without any radiating margino-apical pattern.

Described from Caffraria and not recorded subsequently.

4. **Euribia caffra**, Loew, Berl. Ent. Zeits., v, 1861, p. 290, pl. ii, fig. 21.

Characterised by the middle dark cross band, which is not distinguishable in the two following species.

Described from Caffraria, and not found since.

5. **Euribia dissoluta**, Loew, Berl. Ent. Zeits., v, 1861, p. 291, pl. ii, fig. 22.

The diffuse and paler reticulation of the wings is the principal feature of the species.

6. **Euribia tristrigata**, sp. nov. (Pl. i, fig. 9).

Nearly allied to the preceding species, but distinguished by the more marked thoracic pattern and by the more definite and closer dark pattern at the apex of the wings.

♂♀. Length of the body, 3·32 mm.; of the ovipositor, 1 mm. (if exerted, 2 mm.); of the wings, 3·32 mm. Head reddish, but with the occiput broadly black, grey-dusted; frons flattened, not prominent, orange-yellow on the front half, the middle band being divided by a longitudinal median whitish stripe, and with whitish eye-borders; the narrow ocellar dot is black; lunula whitish; face yellow in the middle, whitish on the sides, slightly prominent at the upper mouth-border; the narrow cheeks and jowls are white. Antennae reddish yellow, shorter than the face; third joint rounded at tip; arista bare; palpi whitish; proboscis yellowish, with short recurrent flaps, but not properly geniculate. All the bristles of the hind border are whitish, and also the first of the superior *or.*; the longer *vt.* is black, like the *oc.* and the other *or.*; 2 lower *or.*; *oc.* long and stout. Thorax black, but clothed with a dense grey dust, which is darker on the back and lighter on the pleurae; on the back there are 3 well-marked, longitudinal, blackish stripes, those on the dorso-central lines being a little broader than the middle, and being all evanescent behind; pubescence pale yellowish. All the bristles are black and inserted in small black dots. Scutellum flat, triangular, yellowish, grey-dusted, with blackish base and a more or less broad dark spot on each side; apical bristles not weaker than the basal ones, and crossed at the tip. Mesophragma black, with dense grey dust. Halteres whitish. Abdomen black, with dense grey dust; the narrow hind borders of the segments, but the entire end half of the last segment in the male, are yellowish red; there are 4 parallel longitudinal rows of rounded black spots, those of the middle broader, and more elongate in the male; pubescence yellow, bristles black; male genitalia yellow, white behind; ovipositor long, flattened, shining red, narrowly black at end. Legs rather short and stout, entirely reddish; front femora with 2-3 black bristles beneath; hind tibiae with no distinct row. Wings elongate, with short but distinct costal bristle; 3rd longitudinal vein bare, perfectly straight and parallel with the likewise straight last portion of the 4th. Wing pattern very like that of *dissoluta*, but with a dark praeapical band, which is not interrupted by hyaline streaks, and therefore the rounded spot below the end of the 2nd longitudinal vein, the apical one and that below the end of the 4th vein are more sharply defined. Lower angle of the anal cell acute, and rather produced; small cross-vein placed on the last third of the discoidal cell.

Type ♂ and type ♀, and some additional specimens of both sexes in the writer's collection, and a ♂ cotype in the British Museum, from Erythraea, Ghinda, December 1916 (*Dr. A. Mochi*).*

XXXII. CAMPIGLOSSA, Rondani (1870).

The species of the present genus are robust and have a light grey, dark-spotted body; they have a very broad and rather buccate head, and are easily recognisable by the rather broad wings, which have a peculiar and rich wing pattern, recalling that of *Hoplochaeta*. But in *C. grandinata*, Rondani, evidently a member of the present genus, the wing pattern is like that of the *Euaesta*-group with non-radiating border (*Pliomelaena*), being however distinguished by the more numerous hyaline discal dots. All the known species of *Campiglossa* have two hyaline spots in the stigma, and usually these spots are of very great size.

1. *Campiglossa perspicillata*, sp. nov. (Pl. i, fig. 10).

A robust and handsome species, very near *irrorata*, Fallén, and *cribellata*, Bezzi, but distinguished from both in having all the macrochaetae of head and thorax whitish, and the basal hyaline spot of the stigma reduced to a narrow streak.

♀. Length of the body, 4.5 mm.; of the ovipositor, 1 mm.; of the wing, 4 mm.; breadth of the wing, 2.2 mm. Head very broad, broader than high and distinctly broader than the thorax; occiput dark grey on middle and above, whitish below; frons flattened, but rather prominent in front of the antennae, about 3 times as broad as the eye and distinctly broader than long; it is whitish, with a double longitudinal yellow stripe, more orange on the front half; the broad ocellar triangle and the large lunula are whitish; face short and broad, with less prominent mouth-border, entirely whitish; cheeks proportionally broad and white; jowls broad, immaculate, distinctly buccate. Antennae short and thick, considerably separate at base, pale yellowish in colour; third joint not longer than the thickened and short bristly second joint, distinctly darker than it in colour and obtuse at end; arista long, thickened at base, microscopically pubescent. Mouth opening very broad; palpi whitish, with a few short black bristles at end; proboscis short and thick, with the terminal part distinctly bent backwards. All the bristles are whitish and those of the occipital row are thickened; *oc.* stout; only 2 lower *or.* Thorax and scutellum black, but densely covered by a pale greyish, almost bluish dust, which is more whitish on the pleurae; there are no distinct dark markings, but the dorsal bristles are inserted on darkish dots; the short pubescence is whitish; all the bristles are stout and whitish; the *prsc.* are placed only a little behind the line of the *a. sa.* and thus the *dc.* are placed much before it, very near the suture. Scutellum convex and short; its basal bristles are very long and inserted over blackish spots; the apical ones are very short, rudimentary, decussate. Mesophragma like the back. Halteres whitish. Abdomen broad, coloured like the thorax, with 2 rows of broad, rectangular, not sharply defined, blackish, transverse spots, but the basal segment is immaculate; bristles whitish; ovipositor short, flattened, obtuse, shining black. Legs pale yellowish, but the 4 posterior femora distinctly darkened by dark grey dust; they have whitish hairs and 4-5 bristles on the front pair

* [The specimen figured is from Nyasaland, Mt. Mlanje, 23.iv.1913 (*S. A. Neave*).—ED.]

beneath; tibiae of the middle pair with black apical spurs; hind tibiae without distinct row. Wings proportionally short and broad, rounded at end, with a small but distinct costal bristle. The 2nd, 3rd and 4th longitudinal veins are straight and distinctly diverging, chiefly the two former; 3rd vein bare; discoidal cell very broad at end and there about three times as broad as at base, the hind cross-vein twice as long as its distance from the small cross-vein, which is placed on the last third; lower angle of the anal cell acute and a little produced; axillary lobe well developed. The pattern is like that of the Indian *cribellata*, but with some peculiarities. The base is whitish hyaline, with 2 parallel dark streaks in the costal cell and a quadrate spot at base of the first basal cell. The stigma has a broad rounded hyaline spot and a narrow basal hyaline streak. Around the border of the wings there is a regular series of equal and rounded spots, grouped thus: 3, 2, 1, 3, 3; after this border there is a band with numerous and small hyaline dots; 2 symmetrical hyaline spots of greater size are in the first posterior cell, just before the apical spot between the ends of the 3rd and 4th vein; the centre of the wing is black, with several small hyaline spots, and between them 5 of greater size are placed in the form of a circle around the small cross-vein and at very regular distances from it; there are 2 in the submarginal cell, 1 in the first basal, 1 in the first posterior and 1 in the discoidal cell. All the hyaline spots are distinctly whitish.

Type ♀ and an additional specimen of the same sex from Durban, Umbilo, 31.x.1914 (*L. Bevis*).

2. *Campiglossa cyana*, Walker (1849).*

It is very probable that the present species, described from Sierra Leone as a *Noeeta*, may belong here, owing to the description of its proboscis. It seems to have a wing pattern very like that of the preceding species, but it differs in having the ovipositor ferruginous in the middle and the femora banded with black.

XXXIII. CAMAROMYIA, Hendel (1914).

Prof. Hendel in his recent work on the South American fruit-flies has erected this genus for the very characteristic *Trypeta bullans*, Wied. (= *tenera*, Loew), which has a singular geographical distribution, being found in South Europe and in South America, and has besides a very remarkable sexual dimorphism. Hendel has described a second species, *C. philodema*, from Chile, and has recorded as belonging here the North American *aequalis*, Loew; I have to add to the genus the North American *gemella*, Coquillett, and the following Ethiopian new species, of which only the female is known, which however has the peculiar wing pattern and the protuberance of the frons. *C. aequalis* and *gemella* have the 3rd antennal joint rounded at the end, while in *bullans* and the new species here described it has a rather sharp upper point at the tip.

* [An examination of the type specimen shows that this species is not a *Campiglossa* but an *Euribia*, and it runs down next to *E. dissoluta*, Lw., and *E. tristigata*, Bezzi, in the author's key to that genus. It may be distinguished from these two species, *inter alia*, by the markings in the 2nd posterior cell; this has along its margin three widely separated small round spots, the innermost being larger than the other two, and in the centre there is a small spot of the same size as the outer marginal ones and a minute dot. In the other species the markings are larger, irregular and for the most part confluent.—E.D.].

1. **Camaromyia acrophthalma**, sp. nov.

Very distinct from all the other known species on account of its peculiar pattern at the apex of the wings, the hyaline spot between the ends of the 3rd and 4th longitudinal veins being replaced by a brown, eye-like spot; besides, the ovipositor is much longer than in the other known females.

♀. Length of the body, 4 mm.; of the ovipositor, 2 mm.; of the wing, 4.5 mm. Head entirely whitish yellow and immaculate, even on the occiput, with only a small black ocellar dot; frons gently rounded in the middle and prominent in profile, about as broad as long; lunula whitish; face narrower than the frons, projecting very little at the upper mouth-border; eyes rounded; cheeks and jowls narrow. Antennae yellowish, a little shorter than the face; third joint twice as long as the second, attenuated towards the end and distinctly pointed at tip; arista bare. Palpi broad, spatulate, pale yellowish, with black bristles; proboscis yellow, short and simple. All the cephalic bristles are whitish; 3 lower *or.*, the anterior one being smaller; *oc.* long and stout. Thorax and scutellum entirely pale yellowish, clothed with whitish dust and with whitish pubescence; all the bristles are pale yellowish; middle *sep.* well developed; *prsc.* and *dc.* placed well forwards; apical scutellar bristles long and crossed. Mesophragma black, grey-dusted; halteres whitish. Abdomen coloured and dusted like the thorax, and likewise with whitish pubescence and whitish bristles; ovipositor longer than the abdomen, with the basal half swollen and conical, and the apical half cylindrical; it is of a shining reddish colour, broadly black at the end and clothed with whitish pubescence in the basal part. Legs entirely pale yellowish; front femora with 5-6 yellow bristles beneath; apical spur of the middle tibiae yellowish; hind tibiae with no distinct row. Wings long and narrow, with a distinct costal bristle; 2nd, 3rd and 4th longitudinal veins slightly diverging near the end, the last portion of the fourth being bent at base; 3rd vein bare; small cross-vein placed after the middle of the discoidal cell and parallel with the hind cross-vein; discoidal cell twice as broad at end as at base; lower angle of the anal cell acute but not produced. Veins pale yellowish, but darkened on the dark parts. Pattern of typical shape, but of a very pale colour, only the apical patch being dark brown; stigma colourless; the base broadly, half the 3rd posterior cell and the axillary cell almost hyaline. The apical blackish pattern occupies the lower end of the submarginal, the end of the first posterior and the upper end of the 2nd posterior cell; at apex there is the peculiar eye-shaped spot.

Type ♀, a single specimen from Nyasaland, Chiromo, Ruo R., 23.ix.1916 (*R. C. Wood*).

2. **Camaromyia helva**, Loew, Berl. Ent. Zeits., v, 1861, p. 294, pl. ii, fig. 24.

To judge from Loew's description of the head and from the figure of the wing, the present species may belong here. But as the proboscis is described as bicubitate and the bristles of the frons and thorax as black, its location here is doubtful.

Described from Caffraria, I have recorded it in 1908 from Erythraea as an *Oxya*, but wrongly, as the abdomen is said to be spotted; probably I had before me a specimen of the above-described *Euribia tristrigata*.

XXXIV. ACANTHIOPHILUS, Becker (1908).

I here adopt this name for the species which have dimidiate (but always reticulate) wings, thus recalling the condition found in *Ocneros* (*Hemilea*), with which the present genus was originally believed to be related by its author.

1. **Acanthiophilus helianthe**, Rossi (1790).

Recorded by me in 1908 from Erythraea, Adi Caie ; and I have now a specimen before me, certainly belonging to this widely spread South European and Mediterranean species.

2. **Acanthiophilus ochraceus**, Loew, Berl. Ent. Zeits., v, 1861, p. 295, pl. ii, fig. 25.

I refer with doubt to the present genus this species, which has a faint wing pattern, like that of *lauta*, but has several darker spots on the anterior half.

Described from Caffraria and not recorded subsequently.

XXV. TRYPANEA, Schrank (1795).

Even this genus is very doubtful in its limits, being absolutely an artificial one, but the species can easily be recognised on account of the star-shaped apical pattern of the wings, and seem to form a natural group, because they are well represented in all the zoological regions. Most of the Ethiopian species have a bicubitate proboscis, and usually only 2 bristles on the scutellum ; I can distinguish the following, some of which are probably only varieties, and are in part closely allied to European or Mediterranean forms.

- 1(8). Stigma black, and broadly united with the apical black spot ; the single basal hyaline spot of the first posterior cell is smaller than the distance between the 3rd and 4th longitudinal veins.
- 2(7). Second longitudinal vein long, its distance from the end of the first being longer than that from the end of the second ; in the black apical spot there is a deep black dot on the 3rd vein before its end.
- 3(6). Sixth longitudinal vein long ; the discoidal cell crossed by a single fuscous ray near its end.
- 4(5). Scutellum with only 2 bristles ; the black apical spot sends 3 rays to the hind border of the wing ; no black spot on middle of the 5th vein ; lower angle of the anal cell acute *augur*, Frauent.
- 5(4). Scutellum with 4 bristles ; 4 rays reaching the hind border ; a black spot on the 5th vein, lower angle of the anal cell a right angle, not prolonged *auguralis*, Bezzi.
- 6(3). Sixth vein short ; the discoidal cell crossed by 2 fuscous rays, one in the middle and another at end ; scutellum with 4 bristles *hexapoda*, sp. n.
- 7(2). Second longitudinal vein short, its end being nearer to the end of the first ; the apical spot is more blackened near the end, but has no distinct deep black spot on the 3rd vein ; scutellum with 2 bristles *confluens*, Wied.
- 8(1). Stigma colourless or yellowish, not united with the apical black spot, or only with a narrow, incomplete and slightly coloured streak ; scutellum with 2 bristles ; basal hyaline spot of the first posterior cell extending from the 3rd to the 4th vein.

- 9(14). Apex of the wings with the usual blackish fork ; base of the first posterior cell with a single hyaline spot of greater size.
- 10(13). Species of greater size, measuring 3-4 mm. in length ; ovipositor short and flattened.
- 11(12). Ground-colour of thorax and abdomen fulvous *aira*, Walk.*
- 12(11). Ground-colour of thorax and abdomen black *peregrina*, Ad.
- 13(10). Species of smaller size, 2-3 mm. in length ; ovipositor longer than the abdomen and cylindrical *urophora*, sp. n.
- 14(9). Apex of the wings entirely hyaline and devoid of the usual fork ; base of the first posterior cell with 2 hyaline spots.
- 15(18). There is a narrow but distinct dark streak extending obliquely from the stigma to the small cross-vein ; macrochaetae yellowish.
- 16(17). Lower angle of the anal cell a right angle ; a complete dark band goes from the stigma across the middle of the discoidal cell to the hind border of the wing ; abdomen testaceous ; no abbreviated apical ray on wing
aucta, Bezzi.
- 17(16). Lower angle of the anal cell acute ; no such band going from the stigma to the hind border ; abdomen black or only reddish at sides ; there is an abbreviated apical ray on wing *amoena*, Frauenf.
- 18(15). There is no streak at all from the stigma ; macrochaetae dark brown or black.
- 19(20). There is an abbreviated apical ray on wing, no black spot on the middle of the 5th longitudinal vein ; ovipositor longer than the abdomen
diversa, Wied.
- 20(19). No abbreviated apical ray ; a black spot on the middle of the fifth longitudinal vein ; ovipositor shorter than the abdomen. . . *decora*, Loew.

1. *Trypanea augur*, Frauenfeld (1856).

A pretty species, easily recognisable by its characteristic wing pattern and by the want of the apical pair of scutellar bristles.

In Egypt the present species lives on *Zygophyllum album*, as observed long ago by Frauenfeld. Becker records the species from Aden ; I have received from Erythraea, Ghinda, June 1916 (*Dr. A. Mochi*) a male specimen, which agrees very well with Egyptian specimens in my collection received from Becker and Dr. Escher-Kündig ; it has the abdomen broadly reddish on the sides.

2. *Trypanea auguralis*, Bezzi, Bull. Soc. Ent. Ital., xxxix (1907), 1908, p. 163.

Closely allied to the preceding species, and perhaps only a variety of it, distinguished by having 4 scutellar bristles and a somewhat different wing pattern.

Described from Erythraea, Adi Caiê, and not found since.

* [The characters given in the key do not apply to Walker's type, which has a wing pattern very similar to that of *T. amoena*, Frf., and *T. stellata*, Fues. The apex of the wing is hyaline ; there are two spots in the base of the 1st posterior cell ; the ground-colour of the thorax and abdomen is black dorsally, not fulvous ; no oblique stripe from the stigma to the small cross-vein ; and the lower angle of the anal cell is a wide acute angle.—E.D.]

3. *Trypanea hexapoda*, sp. nov. (Pl. i, fig. 12).

A small species with 4 scutellar bristles, distinct from all the allied species in having the discoidal cell crossed in the middle by a dark ray, which does not reach the hind border of the wing; but it has 6 complete rays, whence the name.

♀. Length of the body, 2.5–2.7 mm.; of the ovipositor, 0.4 mm.; of the wing, 2.5–2.7 mm. Occiput black, grey-dusted, but yellowish on the sides and below; frons flattened, elongate, as broad as the eye, twice as long as broad, only slightly prominent above the root of the antennae; the middle frontal stripe is yellow, opaque, with broad whitish orbits and greyish ocellar dot. Face short and yellowish, like the narrow and immaculate jowls; mouth-border distinctly prominent. Antennae short; second joint projecting and reddish; third joint as long as second, distinctly attenuated but not acute at end, and more or less darkened; arista brownish, bare. All the bristles around the occipital and vertical borders are whitish and thick; the *oc.* and the *or.* are dark brownish; only 2 lower *or.*; *oc.* rather stout. Palpi and proboscis dark yellowish; the latter is rather long and bicubitate, its last portion being as long as the basal one. Thorax black, densely grey-dusted; in well preserved specimens it seems to be cinereous on the back, with a dark, longitudinal, middle stripe; the pubescence is yellowish; the bristles are dark brownish or even blackish, but those of the pleurae are whitish; chaetotaxy normal. Scutellum and mesophragma coloured like the thorax; the former has 4 bristles, those of the apical pair being much shorter and crossed. Halteres pale yellowish. Abdomen black, dark grey-dusted, with yellowish pubescence and with yellowish or brownish bristles; ovipositor short, flattened, broad, obtuse, shining black, with short whitish pubescence at base. Legs entirely yellowish, rather short and stout, chiefly those of the front pair; front femora with 3–4 yellowish bristles beneath. Wings rather elongate, with a distinct costal bristle; 2nd, 3rd and 4th longitudinal veins straight and gradually diverging towards the end; second vein ending in the middle between the ends of the third and first; third bare; hind cross-vein much longer than its distance from the small cross-vein; lower angle of the anal cell a right angle and not produced; 6th vein very short, not produced into a spurious continuation. The pattern is like that of *augur*, but it is more blackish and agrees more with that of *confluens*; the deep black spot at end of the 3rd vein is very distinct. Characteristic of the species are: a dentiform projection of the black of the first basal cell along the 3rd longitudinal vein towards the base of the wing; and a dark ray, which, crossing the middle of the discoidal cell, ends towards the middle of the 3rd posterior cell. The 3 hyaline spots of the black apical patch are disposed as in *confluens*.

The present species seems to be allied to *cosmia*, Schin., which is recorded from Aden by Becker.

Type ♀, and an additional specimen of the same sex from Gold Coast, Aburi, March-April, 1911, on leaf of *Tabernaemontana* (*L. Armstrong*).

4. *Trypanea confluens*, Wiedemann (1830).

Allied to the preceding species, but distinct from it and from all the others on account of the short 2nd longitudinal vein. From the preceding it differs in having

only 2 scutellar bristles, the lower angle of the anal cell acute, and the 6th longitudinal vein longer; besides, the wing pattern is different, having only 3 rays produced to the hind border of the wing.

Described from the Cape and recorded from Rhodesia.

5. **Trypanea aira**, Walker (1849).

Described from the Congo and not recorded subsequently. It seems to have a wing pattern more reduced than that of the preceding species, and thus more approaching to that of the two following.

6. **Trypanea peregrina**, Adams, Kans. Univ. Sci. Bull., iii, 1905, p. 170.

Described from Rhodesia, Salisbury, and apparently closely allied to the following new species.

7. **Trypanea urophora**, sp. nov. (Pl. i, fig. 11).

An elegant little species, distinguished by its very long and cylindrical ovipositor, and by its wing pattern, which is much like a diffuse reticulation of the *Euribia* type, but covering only the apical half of the wings. It is closely allied to the European species *mamulae* and *gnaphalii*, differing in the less developed dark pattern of the discoidal cell, which in the female is entirely hyaline; but it is possibly, like *peregrina*, only a form of those.

♂♀. Length of the body, 2.2–2.8 mm.; of the ovipositor, 1.6 mm.; of the wing, 2.4–3 mm. Head broad, occiput black, grey-dusted; frons flattened, not prominent, broader than the eye, only one and a half times as long as broad, opaque yellowish, with whitish lunula, broad whitish orbits and whitish ocellar triangle, in which there is a dark dot; face short, pale yellowish; cheeks and jowls narrow, whitish, the latter immaculate. Antennae reddish yellow, as long as the face, 3rd joint about twice as long as the not projecting second joint, broad and rounded at tip; arista short, dark brownish, bare. Palpi and proboscis pale yellowish, the latter long and geniculate, but with the recurrent flaps shorter than the basal part. The bristles of the hind border are whitish and thickened; those of the frons are dark brownish; the 2 lower *or.* and the *oc.* are strong. Thorax, scutellum and mesophragma black, clothed with dense cinereous dust, chaetotaxy complete, except the *scp.* which are, as usual, rudimentary; all the bristles are pale yellowish, those of the basal scutellar pair being long and inserted on rather broad dark dots; the apical pair is wanting. Halteres whitish. Abdomen coloured like the thorax, with rather long pale yellowish pubescence and with some short bristles of the same colour at end; ovipositor shining black, cylindrical and not much swollen at base; clothed with long scattered brownish hairs. Legs entirely yellowish; front femora with 3–5 yellowish or brownish bristles beneath; hind tibiae with no distinct row. Wings elongate, with a small costal bristle; 2nd longitudinal vein long, nearer to the end of the 3rd than to that of the first; third vein bare; 2nd, 3rd and 4th veins straight and slightly diverging towards the end; hind cross-vein arched outwardly and only a little longer than its distance from the small cross-vein; lower angle of the anal cell acute but not much produced; 6th vein rather short and not prolonged into spurious continuation. The wings are

whitish-hyaline; the veins are pale yellowish, but they are dark brown on the dark parts of the pattern. The pattern is blackish, and very like that of *peregrina* as described by Adams; the stigma is colourless, with only the upper exterior angle darkened; a more or less indicated and interrupted oblique fuscous streak departing from the stigma goes to the small cross-vein, which is bordered with fuscous and is isolated from the rest. The blackish apical patch is nearly round, and has no hyaline spots in it, but has 7 great hyaline spots or indentations along its border, thus forming the projecting rays; these are: one at fore border, directed obliquely; one below the end of the 2nd vein; 2 on the ends of the 3rd and 4th veins forming the usual fork; and 3 in the 2nd posterior cell, the last of which is placed just on the hind cross-vein. There is besides the remnant of a less infuscated band below the 5th vein on the middle of the discoidal cell, not reaching the hind border. Characteristic for the species are: 2 hyaline contiguous rounded spots at the end of the first posterior cell, just before the large apical hyaline spot, thus giving a peculiar shape to the base of the apical fork or Y-shaped spot; the hyaline spot at base of the first posterior cell in front of the small cross-vein is of greater size, extending from the 3rd to the 4th vein; it is chiefly the breadth of these 4 hyaline spots which gives to the wing an appearance of reticulation, together with the rounded shape of some of the hyaline spots which form the radiating fuscous streaks.

Type ♂, type ♀, and some additional specimens of both sexes from Durban, Umbilo, February–April 1914 (*L. Bevis*).

8. *Trypanea aucta*, Bezzi, Mem. Ind. Mus., iii, 1913, p. 166, pl. x, fig. 69; var. *repleta*, var. nov.

Perfectly corresponding with the Indian female described by me in the important characters of the obtuse anal cell and of the complete middle band of the wings, but differing in the following peculiarities, on which I have to erect here a new variety under the name of *repleta*.

♂. Length of the body, 3.5 mm.; of the wing, 3.5 mm. The hyaline spot at the apex of wing just below the end of the second longitudinal vein is reduced to a



Fig. 3. *Trypanea aucta*, Bezzi, var. *repleta*, nov.

very small dot. The apical hyaline space is broader, being much extended below the 4th vein, and occupying the whole terminal angle of the second posterior cell. The hyaline indentation between the 2 terminal rays of the hind border is entirely wanting, and thus there are only 3 (not 4) dark rays reaching the hind border in the 2nd posterior cell. The apical hyaline spot of the discoidal cell is reduced to a very small streak. The small cross-vein is margined with fuscous as in the typical *aucta*, as mentioned in the original description, but omitted in the figure.

Type ♂, a single specimen in the author's collection from Erythraea, Ghinda, June 1916 (*Dr. A. Mochi*).

9. **Trypanea amoena**, Frauenfeld (1856).

Of this well known species, which is widely spread over Europe, Mediterranean countries and the entire Oriental region to the Philippines, I have before me a male specimen from Erythraea, Ghinda, June 1916 (*Dr. A. Mochi*).

10. **Trypanea diversa**, Wiedemann (1830); Loew, Berl. Ent. Zeits., v, 1861, p. 298, pl. ii, fig. 27.

A peculiar species, described from the Cape by Wiedemann and Loew; I have not yet seen it.

11. **Trypanea decora**, Loew, Berl. Ent. Zeits., v, 1861, p. 300, pl. ii, fig. 28.

Described from the Cape and not recorded since; it is perhaps only a variety of *amoena*, as already suspected by Prof. Hendel.

IV. Subfamily: SCHISTOPTERINAE.

This subfamily is a very peculiar one, and representatives of it are to be found only in the Ethiopian and Oriental regions, all the three known genera being present in Africa. The character of the *dc.* shows their affinity with the TRY-PANEINAE.

XXXVI. RHABDOCHAETA, de Meijere (1904).

Of this rather aberrant Oriental genus the following Ethiopian species has been described.

1. **Rhabdochaeta spinosa**, Lamb, Trans. Linn. Soc. London, Zool. xvi, 1914, p. 320, fig. 13 & pl. 19, fig. 10.

Seychelles, from various localities.

XXXVII. RHOCHMPTERUM, Speiser (1910).

Only the following species is known.

1. **Rhochmpterus neuropteripenne**, Speiser, Wiss. Ergebn. Schwed. Exped. Kilimandjaro, x, Dipt., 1910, p. 186.

Described from Kilimanjaro.

XXXVIII. SCHISTOPTERUM, Becker (1903).

There is a single species at present known, which is Mediterranean and Ethiopian.

1. **Schistopterus moebiusi**, Becker, Mitt. Zool. Mus. Berlin, ii, 1903, p. 137, pl. 4, fig. 49.

Found in Egypt, Siala, on the plant *Conyza dioscorides*, by Becker.